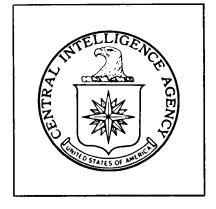
Top Secret



DIRECTORATE OF INTELLIGENCE

Industrial Facilities (Non-Military)

Basic Imagery Interpretation Report

Refineries and Shale Oil Plants

China

Top Secret

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CENTRAL INTELLIGENCE AGENCY Directorate of Intelligence Imagery Analysis Service

ABSTRACT

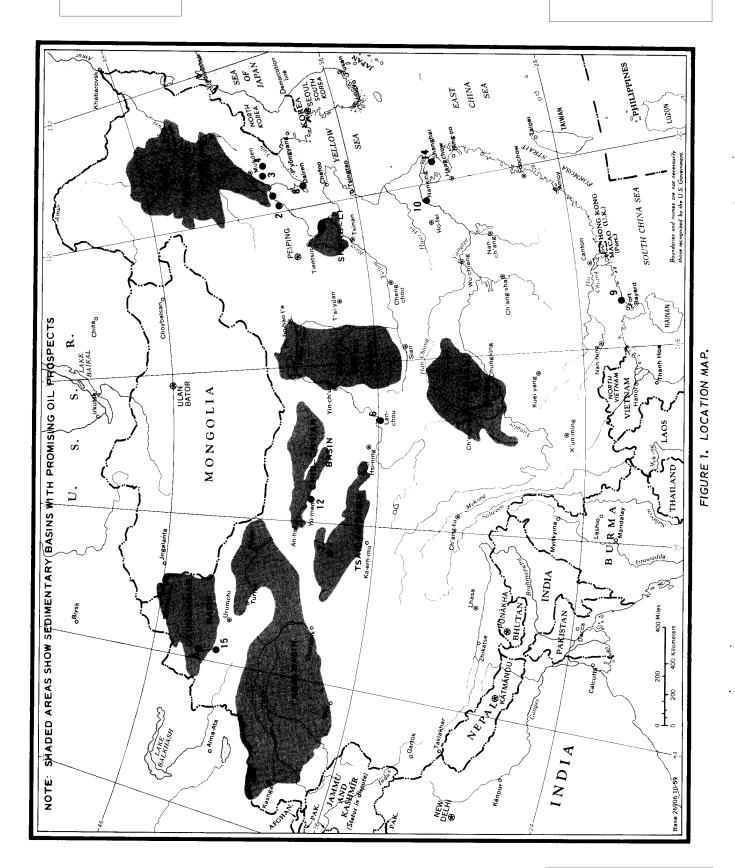
This report updates the previous Basic Imagery Interpretation Reports on ten refineries, two shale oil plants, and a synthetic fuels plant in China. The latest information used in this report ranges from October 1969 to January 1970, depending on the plant.

New refining units are being added to the Ko-la-ma-i and Tu-shan-tzu refineries and to the Chin-chou Synthetic Fuels Plant, which is being modified to process only natural crude oil. Additions of unidentified function are being made to the Lan-chou, Chin-hsi, and Nan-ching refineries. No significant changes have been made to the Leng-hu, Shanghai, Pai-yang-ho, Lu-ta, and Sa-erh-tu refineries or to Fu-shun Shale Oil and Chemical Plant East. Smoke precluded analysis of the facilities at Fu-shun Shale Oil Plant West. All of the above plants were observed in operation at least once since the previous reports.

Due to the lack of coverage since the last reports, updates were not possible on the Nan-chung refinery or the Mao-ming shale oil plant.

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Key to Figure 1

- 1. Chin-chou Synthetic Fuels Plant.
- 2. Chin-hsi Petroleum Refinery.
- 3. Fu-shun Shale Oil and Chemical Plant East.
- 4. Fu-shun Shale Oil Plant West.
- 5. Ko-la-ma-i Petroleum Refinery.
- 6. Lan-chou Petroleum Refinery.
- 7. Leng-hu Petroleum Refinery and Storage.
- 8. Lu-ta Petroleum Refinery.
- 9. Mao-ming Shale Oil Refinery.
- 10. Nan-ching Petroleum Refinery.
- II. Nan-chung Petroleum Refinery.
- 12. Pai-yang-ho Petroleum Refinery, Yu-men.
- 13. Sa-erh-tu Petroleum Refinery and Storage.
- 14. Shanghai Petroleum Refinery, Gough Island Area.
- 15. Tu-shan-tzu Petroleum Refinery and Storage.

Requirement

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Document		

CIA. RCS 13/0278/69, Chin-chou Synthetic Fuels Plant, Chin-chou, China, June 1969, TCS 19128/69 (TOP SECRET RUFF)

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TOP SECRET RUFF



		9 : CIA-RDP79T00909A001000010005-0
NSTALLATION OR AC	TIVITY NAME	COUNTRY
Fu-shun Shale	Oil and Chemical Plant Ea	st CH
TM COORDINATES	GEOGRAPHIC COORDINATES	
51TWG868318	41-50-01N 124-02-54E	
	TC, Series 200, Sheet MO2 ECRET	290-IIHL, 4th ed, Jan 66, Scale I:200,000
LATEST IMAGERY US	ED	NEGATION DATE (If required)
	· · · · · · · · · · · · · · · · · · ·	NA
		(1)
report, the di retort area (A	ember 1968, the date of t smantling of the shale oi rea B) at this plant. Al	SCRIPTION The latest photography used in the previous I retort has continued in the shale oil I of the processing units around the retor
report, the di retort area (A appear to have The plant now in Area C, as The plant	ember 1968, the date of t smantling of the shale oi rea B) at this plant. All been removed. No additi processes oil recovered f well as natural crude oil was in operation when ob y emissions in several of	SCRIPTION The latest photography used in the previous I retort has continued in the shale oil I of the processing units around the retor onal changes to the facilities were noted. From the single remaining shale oil retort. Served on the December 1969 photography

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	· · · · · · · · · · · · · · · · · · ·	
NSTALLATION OR ACTIVITY NAME		COUNTRY
u-shun Shale Oil Plant W		CH
51TWG725340 41-51-00	ON 123-52-11E	
ÚSATC, Series (SECRET	200, Sheet MO290-IIHL, 4th ed,	Jan 66, Scale 1:200,000
ATEST IMAGERY USED	NEGATION DATE (If re	equired)
		NA
	BASIC DESCRIPTION	
revious report. The degree of activi	a on December 1969 imagery, the ty within the plant could not b wo areas of the plant indicated	pe determined,although
	REFERENCES	
Oocument		
CIA. RCS 13/0279/69,	Fu-shun Shale Oil Plant West,	Fu-shun, China, June 1969,
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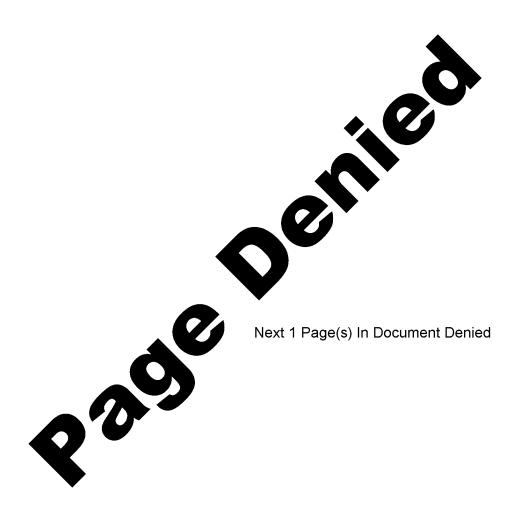
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			C	OUNTRY	•
Lan-chou Petro	leum Refinery			СН	
JTM COORDINATES 48SUQ780978	GEOGRAPHIC COORDIN 36-06-58N 103				25)
MAP REFERENCE 15th RTS. USA (SE		Sheet 0383	3-22HL, 2nd ed, May 64, Scale I	:200,000	
ATEST IMAGERY US	ED		NEGATION DATE (If required)		
			NA		25)
			- L		
		BASIC DES	SCRIPTION		
rom Area A. The thermal cr unidentified p mas been ident	been observed c A small light+en acking area (Are rocessing unit a ified as a possi	oming from ds unit ha a J), adja t the sout ble alkyla	dentified processing areas (Area of Area of Area of Don several occasions, but the east expended to the thermal cracking unto the the U/I processing area of the U/I processing area.	but never end of nit. The ea (Area G) its location	
the thermal crunidentified plass been identing the refiner The facil previously ide	been observed c A small light+en acking area (Are rocessing unit a ified as a possi y and its genera ities in the cru ntified as prima	oming from ds unit ha a J), adja t the sout ble alkyla I appearan de oil dis	n Area D on several occasions, bas been identified at the east eacent to the thermal cracking up	but never end of nit. The ea (Area G) its location phy.	
the thermal crunidentified plass been identified to the refiner. The facil previously identified parts are the refiner.	been observed c A small light-en acking area (Are rocessing unit a ified as a possi y and its genera ities in the cru ntified as prima ts.	oming from ds unit ha a J), adja t the sout ble alkyla I appearan de oil dis ry distill	Area D on several occasions, to been identified at the east eacent to the thermal cracking unto the end of the U/I processing are ation unit, based primarily on ince on the small-scale photographical trillation area (Area M) which wation units are now believed to I coverage as indicated by emiss	but never end of nit. The ea (Area G) its location phy. were be phenol	
the thermal crunidentified plass been identified the refiner. The facil previously identified parts are the refined the refin	been observed c A small light-en acking area (Are rocessing unit a ified as a possil y and its genera ities in the cru ntified as prima ts. ery was in opera	oming from ds unit ha a J), adja t the sout ble alkyla I appearan de oil dis ry distill	Area D on several occasions, to been identified at the east eacent to the thermal cracking unto the end of the U/I processing are ation unit, based primarily on ince on the small-scale photograph ation units are now believed to I coverage as indicated by emisters in the east of the	but never end of nit. The ea (Area G) its location phy. were be phenol	
The thermal crunidentified plas been ident not the refiner The facil previously ident extraction unions.	been observed c A small light-en acking area (Are rocessing unit a ified as a possil y and its genera ities in the cru ntified as prima ts. ery was in opera	oming from ds unit ha a J), adja t the sout ble alkyla I appearan de oil dis ry distill tion on al rious proc	Area D on several occasions, to been identified at the east eacent to the thermal cracking unto the end of the U/I processing are ation unit, based primarily on ince on the small-scale photograph ation units are now believed to I coverage as indicated by emisters in the east of the	but never end of nit. The ea (Area G) its location phy. were be phenol	25)
The thermal crunidentified plas been ident not the refiner The facil extraction units The refiner	been observed c A small light-en acking area (Are rocessing unit a ified as a possil y and its genera ities in the cru ntified as prima ts. ery was in opera	oming from ds unit ha a J), adja t the sout ble alkyla I appearan de oil dis ry distill tion on al rious proc	Area D on several occasions, to been identified at the east eacent to the thermal cracking unto the end of the U/I processing are ation unit, based primarily on ince on the small-scale photograph ation units are now believed to I coverage as indicated by emisters in the east of the	but never end of nit. The ea (Area G) its location phy. were be phenol	25)
The thermal crunidentified plas been ident not the refiner The facil previously ident extraction unions.	been observed c A small light-en acking area (Are rocessing unit a ified as a possil y and its genera ities in the cru ntified as prima ts. ery was in opera	oming from ds unit ha a J), adja t the sout ble alkyla I appearan de oil dis ry distill tion on al rious proc	Area D on several occasions, to been identified at the east eacent to the thermal cracking unto the end of the U/I processing are ation unit, based primarily on ince on the small-scale photograph ation units are now believed to I coverage as indicated by emisters in the east of the	but never end of nit. The ea (Area G) its location phy. were be phenol	25)

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TOP SECRET RUFF



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INSTALLATION OR AC	CTIVITY NAME		COUNTRY	-
Mao-ming Shale	e Oil Refinery		СН	_
UTM COORDINATES 49QDP875975	GEOGRAPHIC COORDINATES 21-40-45N 110-52-57E			 25
MAP REFERENCE ACIC. USATC, (SECRET		HL, 3rd ed, Mar 67, Scale I:	200,000	
ATEST IMAGERY US		NEGATION DATE (If required)		-
		NA		
	NOT	ICE		-
ince December eport.		rest photography utilized in	the previous	
Document	REFER	RENCE		
	(TOP SECRET RUFF)	Oil Refinery, Mao-ming, Chir	na, June 1969,	0.5
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				25
				25
				25
				25
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				25
				23
				25

TOP SECRET RUFF

INSTALLATION OR ACTIVITY NAME Nan-ching Petroleum Refinery UTM COORDINATES 50SPL806604 32-10-00N 118-54-40E MAP REFERENCE USATC Series 200, Sheet 0386-23HL, 3rd ed, Jan 64, Scale 1:200, (SECRET) LATEST IMAGERY USED NEGATION DATE (If required) NA BASIC DESCRIPTION Since February 1969, the date of the latest imagery used in the previreport, construction has continued at the Nan-ching Petroleum Refinery. I storage area under construction (Area D), the four storage tanks have been	
UTM COORDINATES GEOGRAPHIC COORDINATES 50SPL806604 32-10-00N 18-54-40E MAP REFERENCE USATC Series 200, Sheet 0386-23HL, 3rd ed, Jan 64, Scale 1:200, (SECRET) LATEST IMAGERY USED NEGATION DATE (If required) NA BASIC DESCRIPTION Since February 1969, the date of the latest imagery used in the previreport, construction has continued at the Nan-ching Petroleum Refinery.	RY
MAP REFERENCE USATC Series 200, Sheet 0386-23HL, 3rd ed, Jan 64, Scale 1:200, (SECRET) NEGATION DATE (If required) NA BASIC DESCRIPTION Since February 1969, the date of the latest imagery used in the previreport, construction has continued at the Nan-ching Petroleum Refinery.	CH
USATC Series 200, Sheet 0386-23HL, 3rd ed, Jan 64, Scale 1:200, (SECRET) NEGATION DATE (If required) NA BASIC DESCRIPTION Since February 1969, the date of the latest imagery used in the previreport, construction has continued at the Nan-ching Petroleum Refinery.	
BASIC DESCRIPTION Since February 1969, the date of the latest imagery used in the previreport, construction has continued at the Nan-ching Petroleum Refinery.	000
BASIC DESCRIPTION Since February 1969, the date of the latest imagery used in the previous report, construction has continued at the Nan-ching Petroleum Refinery.	
Since February 1969, the date of the latest imagery used in the previreport, construction has continued at the Nan-ching Petroleum Refinery.	
report, construction has continued at the Nan-ching Petroleum Refinery. I	
completed and several support buildings have been added. At the south end Area D two unidentified processing units have been added. The refinery appeared to be active in October 1969 as indicated by th presence of tankers at the river loading piers. REFERENCES	of
Document CIA. RCS 13/0182/69, Nan-ching Petroleum Refinery, Nan-ching, China, J (TOP SECRET RUFF)	une 1969,
-14-	
TOP SECRET RUFF	

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INSTALLATION OR ACTIVITY NAME	COUNTRY	
Nan-chung Petroleum Refinery	СН	
UTM COORDINATES GEOGRAPHIC COORDINATES 48RXK049100 30-49-10N 106-06-10E	25	5X1
MAP REFERENCE 15th RTS. USATC Series 200. Sheet MO499 (SECRET		5X1
LATEST IMAGERY USED	NEGATION DATE (If required)	
	NA	
	TICE erage of the Nan-chung Petroleum Refinery photography in the previous report.	
REFE	RENCE	
Document		
CIA. RCS 13/0181/69, Nan-chung Petro (TOP SECRET RUFF)	oleum Refinery, Nan-chung, China, June 1969, 25	5X1

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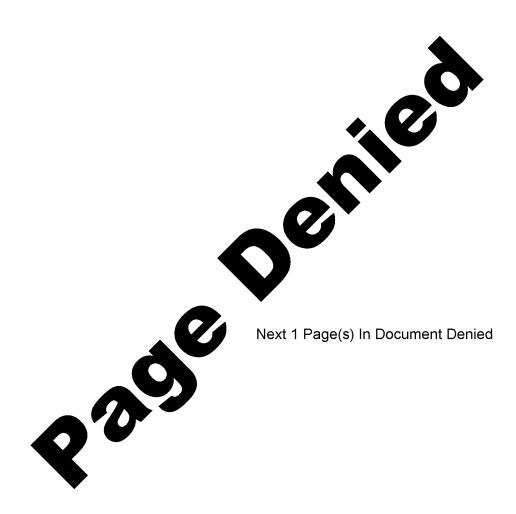
NSTALLATION OR A	CTIVITY NAME		COUNTRY
Pai-yang-ho Pe	etroleum Refinery Yu-m	en	. CH
ITM COORDINATES	GEOGRAPHIC COORDINATES	•	
17SLQ769095	39-50-10N 097-41-50I	=	
MAP REFERENCE	TC Sories 200 Sheet	MO770 200 7.54 54 6	0 6 1 1 000 000
(SE	CRET	M0332-2HL, 3rd ed, Aug 6	8, Scale 1:200,000
ATEST IMAGERY US		NEGATION DATE (If required)	
		NA	
	BASIC	DESCRIPTION	
The refin y emissions i	ery was in operation on several processing a missions were noted in	on photography of December areas. On photography of n the refinery area.	r 1969 as indicated
y emissions i	n several processing a missions were noted in	areas. On photography of n the refinery area.	r 1969 as indicated
The refin	n several processing a missions were noted in	areas. On photography of	r 1969 as indicated
The refin	n several processing a missions were noted in	areas. On photography of n the refinery area.	r 1969 as indicated
The refin	n several processing a missions were noted in	areas. On photography of n the refinery area.	r 1969 as indicated
The refin	n several processing a missions were noted in	areas. On photography of n the refinery area.	r 1969 as indicated
The refin	n several processing a missions were noted in	areas. On photography of n the refinery area.	r 1969 as indicated
The refin	n several processing a missions were noted in	areas. On photography of n the refinery area.	r 1969 as indicated
The refin	n several processing a missions were noted in	areas. On photography of n the refinery area.	r 1969 as indicated
The refin	n several processing a missions were noted in	areas. On photography of n the refinery area.	r 1969 as indicated
The refin by emissions i May 1969, no e	n several processing a missions were noted in	areas. On photography of n the refinery area.	r 1969 as indicated
The refingly emissions in May 1969, no e	n several processing a	areas. On photography of the refinery area.	r 1969 as indicated September 1968 and
The refing emissions in May 1969, no e	n several processing a missions were noted in	ereas. On photography of the refinery area. REFERENCES Petroleum Refinery, Yu-r	r 1969 as indicated September 1968 and
The refin y emissions i lay 1969, no e	n several processing a	ereas. On photography of the refinery area. REFERENCES Petroleum Refinery, Yu-r	r 1969 as indicated September 1968 and
The refingly emissions in May 1969, no e	n several processing a missions were noted in	ereas. On photography of the refinery area. REFERENCES Petroleum Refinery, Yu-r	r 1969 as indicated September 1968 and
The refingly emissions in May 1969, no e	n several processing a missions were noted in	ereas. On photography of the refinery area. REFERENCES Petroleum Refinery, Yu-r	r 1969 as indicated September 1968 and
The refingly emissions in May 1969, no e	n several processing a missions were noted in	ereas. On photography of the refinery area. REFERENCES Petroleum Refinery, Yu-r	r 1969 as indicated September 1968 and
The refingly emissions in May 1969, no e	n several processing a missions were noted in	ereas. On photography of the refinery area. REFERENCES Petroleum Refinery, Yu-r	r 1969 as indicated September 1968 and

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INSTALLATION OR AC	TIVITY NAME		COUNTRY	
Sa-erh-tu Petr	oleum Refinery and Storage	Э	СН	
JTM COORDINATES 51TXM614532	GEOGRAPHIC COORDINATES 46-32-00N 25-06-00E			2
MAP REFERENCE 2nd RTS. USAT (SEC		3-7HL, 2nd ed, Apr 68, Scale	1:200,000	2!
LATEST IMAGERY US	ED	NEGATION DATE (If required)		
		NA		25
	BASIC DE	SCRIPTION		
the plant. No May and August The unit in the previou unit. The uni now identified Area K has bee	emissions were observed to 1969. In Area J which was ident us report is now believed to in Area I previously ident as a thermal cracking unen identified as a multist da a thermal cracking are	ocessing areas, and snow melt within the refinery area on a ified as a probable thermal of to be a multistage primary di entified as a primary distil it. The unidentified process age primary distillation uni- a and Areas J and K as multis	coverage of cracking unit stillation lation unit is sing unit in t. Area I is	
	REFE	RENCES		
				25
Document				
		oleum Refinery and Storage, S ECRET RUFF)	Sa-erh-tu, China,	2

Shang-hai Petroleum Refinery Gough Island Area CH UTM COORDINATES 5 RUE619689 31-20-11N 121-33-17E WARD REFERENCE USATC, Series 200, Sheet 0492-2HL, 2nd ed, Aug 64, Scale 1:200,000 LATEST IMAGERY USED NEGATION DATE (Frequired) NA BASIC DESCRIPTION No significant changes have been observed in the facilities at the Shanghai Petroleum Refinery since December 1968, the date of the latest photography used if the previous report. However, minor additions have been made to the lubricating oil plant (Area F) and the probable blending and treating plant (Area B). The refinery was in operation on all the referenced photography as indicated by emissions from the processing areas and the presence of tankers at the river loading facilities. REFERENCES				
UTM CORDINATES 5 SIRUE619689 31-20-11N 121-33-17E MAPPREFERENCE USATC, Series 200, Sheet 0492-2HL, 2nd ed, Aug 64, Scale 1:200,000 (SECRET) NEGATION DATE (If required) NA BASIC DESCRIPTION NA No significant changes have been observed in the facilities at the Shanghai Petroleum Refinery since December 1968, the date of the latest photography used in the previous report. However, minor additions have been made to the lubricating oil plant (Area F) and the probable blending and treating plant (Area B). The refinery was in operation on all the referenced photography as indicated by emissions from the processing areas and the presence of tankers at the river loading facilities. REFERENCES	INSTALLATION OR ACTIVITY NAME			COUNTRY
UTM COORDINATES STRUE619689 31-20-11N 121-33-17E WARP PEFFENCE USATC, Series 200, Sheet 0492-2HL, 2nd ed, Aug 64, Scale 1:200,000 (SECRET) NEGATION DATE (If required) NA BASIC DESCRIPTION No significant changes have been observed in the facilities at the Shanghai Petroleum Refinery since December 1968, the date of the latest photography used in the previous report. However, minor additions have been made to the lubricating oil plant (Area F) and the probable blending and treating plant (Area B). The refinery was in operation on all the referenced photography as indicated by emissions from the processing areas and the presence of tankers at the river loading facilities. REFERENCES	Shang-hai Petroleum Refine	ry Gough Island	Area	CH
APP.PEFERENCE USATC, Series 200, Sheet 0492-2HL, 2nd ed, Aug 64, Scale 1:200,000 (SECRET) NEGATION DATE (If required) NA BASIC DESCRIPTION No significant changes have been observed in the facilities at the Shanghai Petroleum Refinery since December 1968, the date of the latest photography used in the previous report. However, minor additions have been made to the lubricating pill plant (Area F) and the probable blending and treating plant (Area B). The refinery was in operation on all the referenced photography as indicated by emissions from the processing areas and the presence of tankers at the river loading facilities. REFERENCES	JTM COORDINATES GEOGRAPHIC CO	ORDINATES	·	3.1
USATC, Series 200, Sheet 0492-2HL, 2nd ed, Aug 64, Scale 1:200,000 (SECRET) NEGATION DATE (If required)		121-33-1/E		
BASIC DESCRIPTION No significant changes have been observed in the facilities at the Shanghai Petroleum Refinery since December 1968, the date of the latest photography used the previous report. However, minor additions have been made to the lubricating pill plant (Area F) and the probable blending and treating plant (Area B). The refinery was in operation on all the referenced photography as indicated by emissions from the processing areas and the presence of tankers at the river loading facilities. REFERENCES Document CIA. RCS 13/0188/69, Shanghai Petroleum Refinery, Gough Island Area, Shanghai	USATC, Series 2	00, Sheet 0492-2	HL, 2nd ed, Aug	g 64, Scale I:200,000
BASIC DESCRIPTION No significant changes have been observed in the facilities at the Shanghai Petroleum Refinery since December 1968, the date of the latest photography used in the previous report. However, minor additions have been made to the lubricating pill plant (Area F) and the probable blending and treating plant (Area B). The refinery was in operation on all the referenced photography as indicated by emissions from the processing areas and the presence of tankers at the river loading facilities. REFERENCES Document CIA. RCS 13/0188/69, Shanghai Petroleum Refinery, Gough Island Area, Shanghai	LATEST IMAGERY USED	N	EGATION DATE (If req	uired)
No significant changes have been observed in the facilities at the Shanghai Petroleum Refinery since December 1968, the date of the latest photography used in the previous report. However, minor additions have been made to the lubricating bill plant (Area F) and the probable blending and treating plant (Area B). The refinery was in operation on all the referenced photography as indicated by emissions from the processing areas and the presence of tankers at the river loading facilities. REFERENCES Document CIA. RCS 13/0188/69, Shanghai Petroleum Refinery, Gough Island Area, Shanghai			NA	4
No significant changes have been observed in the facilities at the Shanghai Petroleum Refinery since December 1968, the date of the latest photography used in the previous report. However, minor additions have been made to the lubricating bill plant (Area F) and the probable blending and treating plant (Area B). The refinery was in operation on all the referenced photography as indicated by emissions from the processing areas and the presence of tankers at the river loading facilities. REFERENCES Document CIA. RCS 13/0188/69, Shanghai Petroleum Refinery, Gough Island Area, Shanghai		BASIC DESCR	IPT ION	
CIA. RCS 13/0188/69, <u>Shanghai Petro</u> leum Refinery, Gough Island Area, Shanghai	The refinery was in o	neration on all	the referenced	nhotography as indicated
CIA. RCS 13/0188/69, <u>Shanghai Petro</u> leum Refinery, Gough Island Area, Shanghai	by emissions from the proc	essing areas and	the presence o	
CIA. RCS 13/0188/69, <u>Shanghai Petro</u> leum Refinery, Gough Island Area, Shanghai	by emissions from the proc	essing areas and	the presence o	
China, June 1969, (TOP SECRET RUFF)	by emissions from the proc	essing areas and	the presence o	

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